

**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA**

**DOCKET NO. 2020-__-E
DOCKET NO. 2020-__-E**

In the Matter of:)
)
Duke Energy Carolinas, LLC's)
Establishment of Solar Choice Metering)
Tariffs Pursuant to S.C. Code Ann. Section)
58-40-20)
)
Duke Energy Progress, LLC's)
Establishment of Solar Choice Metering)
Tariffs Pursuant to S.C. Code Ann. Section)
58-40-20)

**DIRECT TESTIMONY OF
LON HUBER FOR DUKE ENERGY
CAROLINAS, LLC AND DUKE
ENERGY PROGRESS, LLC**

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lon Huber, and my business address is 550 South Church Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am the Vice President for Rate Design and Strategic Solutions for Duke Energy Corporation (“Duke Energy”), and I support both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (DEC and DEP are herein referred to collectively as the “Companies”).

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Science Public Administration degree in Public Policy and Management from the University of Arizona in 2009 and a Master’s in Business Administration from the University of Arizona, Eller College of Management, in 2011. I began my career in the utility industry in 2007 when I started working at a solar energy research institute housed within the University of Arizona. In 2010, I served as a governmental affairs staffer for TFS Solar, a solar photovoltaic installation company based in Tucson, Arizona. I was the Regional Policy Specialist for Suntech from September 2011 through December 2012, where I worked to balance cost-effective utility-scale solar with state distributed generation policy goals. From April 2013 to March 2015, I served as a Special Projects Advisor for the Residential Utility Consumer Office in Arizona. From March 2015

1 to July 2018, I served as the Vice President of Consulting at Strategen Consulting.
 2 I also led Navigant's North American retail regulatory offering from July 2018
 3 through November 2019, where I was responsible for providing expert witness
 4 testimony, proceeding strategy, and pricing solutions for clients across the energy
 5 sector. Through all of these roles, I worked on net energy metering ("NEM") issues
 6 in numerous jurisdictions, which is particularly relevant given that this docket
 7 contains a discussion of best practices from other jurisdictions.

8 I transitioned to my current role with Duke Energy in November 2019. As
 9 part of that role, I am responsible for overseeing the development, analysis, and
 10 implementation of pricing and rate design. I am also tasked with leading strategies,
 11 innovation, and development of new rate designs and product bundles in response
 12 to changing electric customer needs in all of Duke Energy's electric jurisdictions.

13 **Q. HAVE YOU TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION**
 14 **OF SOUTH CAROLINA (THE "COMMISSION") IN ANY PRIOR**
 15 **PROCEEDINGS?**

16 A. No, but I have filed testimony before this Commission¹ in Docket No. 2019-182-
 17 E, which is a generic docket established by the Commission pursuant to Act 62
 18 ("Generic Docket").

19 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

20 A. The purpose of my direct testimony is to support the Companies' solar choice
 21 proposals for new NEM programs and to demonstrate how these proposals fulfill

¹ The hearing is scheduled to begin on November 17, 2020.

1 the goals of Act 62. I describe how the Companies have worked in good-faith to
2 create programs that will (i) advance the next generation of NEM under Act 62, (ii)
3 provide customers an opportunity to manage demand and reduce strain on the
4 power grid, and (iii) ensure an advanced energy future for customers in the
5 Companies' service territories.

6 **Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR**
7 **TESTIMONY?**

8 A. Yes. I have attached my full resumé as **Huber Direct Exhibit 1** to provide
9 additional information regarding my background and experience.

10 **Q. WAS THIS EXHIBIT PREPARED BY YOU OR UNDER YOUR**
11 **SUPERVISION?**

12 A. Yes, it was.

13 **Q. PLEASE SUMMARIZE YOUR DIRECT TESTIMONY.**

14 A. The Companies, in close collaboration with stakeholders, have developed a
15 comprehensive resolution of issues related to the establishment of the Companies'
16 Solar Choice Program under Act 62, as evidenced by the Stipulation filed
17 simultaneously herewith (the "Stipulation"). As described in greater detail by the
18 Companies' other witnesses, the terms and conditions of the Stipulation are
19 embodied in the proposed solar choice metering riders and rate schedules
20 (collectively, the "Solar Choice Tariffs") submitted in the Companies' Application
21 in this docket. The Solar Choice Tariffs are the first step in the comprehensive
22 resolution reached by the parties to the Stipulation, and if fully approved, not only

1 will the goals set forth in Act 62 be fulfilled, but South Carolina will be on a path
 2 to be a national leader in rooftop solar policy. The Companies respectfully request
 3 that the Commission approve the Solar Choice Tariffs because they embody the
 4 principles within Act 62 and represent the new measure of NEM best practices
 5 which begin with this docket and will be further effectuated by additional programs
 6 to be proposed in 2021.

7 **II. REQUIREMENTS OF ACT 62**

8 **Q. PLEASE EXPLAIN THE SOLAR CHOICE REQUIREMENTS UNDER**
 9 **ACT 62.**

10 A. The Solar Choice Programs under Act 62 are the next generation of NEM in South
 11 Carolina that build upon the success of Act 236. In enacting Act 62, the General
 12 Assembly set certain parameters for Solar Choice Programs, with an overarching
 13 goal “to establish solar choice metering requirements that fairly allocate costs and
 14 benefits to eliminate any cost shift or subsidization associated with net metering to
 15 the greatest extent practicable.”²

16 **Q. PLEASE DESCRIBE THE MATERIAL REQUIREMENTS IN ACT 62**
 17 **APPLICABLE TO SOLAR CHOICE PROGRAMS.**

18 A. Act 62 requires the Solar Choice Programs to “include a methodology to
 19 compensate customer-generators for the benefits provided by their generation to
 20 the power system”³ while eliminating “any cost shift or subsidization associated

² S.C. Code Ann. § 58-40-20(A)(3).

³ S.C. Code Ann. § 58-40-20(F)(3).

1 with net metering to the greatest extent practicable.”⁴ Additionally, Act 62 makes
 2 clear that the Commission must ensure that each class of service is provided a rate
 3 option that accurately aligns bill savings with the corresponding reductions in the
 4 overall costs to provide such electric service, such as “time-variant pricing
 5 structures.”⁵

6 **III. DEVELOPMENT OF THE SOLAR CHOICE TARIFFS**

7 **Q. DID THE COMPANIES ENGAGE STAKEHOLDERS WHEN**
 8 **DEVELOPING THE SOLAR CHOICE TARIFFS?**

9 A. Yes. Earlier this year, the Companies organized two stakeholder workshops to
 10 encourage stakeholder participation and to solicit feedback regarding the
 11 implementation of Act 62 and the future of NEM in South Carolina. As discussed
 12 in more detail by the Companies’ Witness Ford, the first stakeholder workshop was
 13 held on Thursday, March 12, 2020, with 42 participants. On Thursday, April 23,
 14 2020, the Companies held another stakeholder workshop, which had 47 participants
 15 in attendance. During these workshops, I took the opportunity to introduce myself,
 16 and opened up the floor for stakeholder comments, questions, and suggestions
 17 before and after I presented. These workshops informed the Companies’ Solar
 18 Choice Tariffs that are being proposed today and ultimately resulted in the
 19 Stipulation filed simultaneously herewith. Subsequent to these workshops, the
 20 Companies collaborated in good-faith with numerous stakeholders who advocated

⁴ S.C. Code Ann. § 58-40-20(A)(3).

⁵ S.C. Code Ann. § 58-27-845(D).

1 the desire to develop a common set of terms to discuss ways to advance NEM in
2 South Carolina pursuant to the mandates within Act 62.

3 As evidenced by the Stipulation, the workshops—and subsequent
4 discussions—resulted in a comprehensive resolution that is supported by the
5 Southern Environmental Law Center on behalf of South Carolina Coastal
6 Conservation League, Southern Alliance for Clean Energy, and Upstate Forever;
7 Vote Solar; and the North Carolina Sustainable Energy Association. The
8 Companies incorporated the stakeholder feedback received when developing the
9 Solar Choice Tariffs and DEC and DEP are appreciative of the input from all
10 parties.

11 **Q. PLEASE DESCRIBE YOUR INVOLVEMENT IN THESE STAKEHOLDER**
12 **MEETINGS.**

13 A. The stakeholder meetings, plus these smaller follow-up conversations, all constitute
14 what I consider to be the “collaborative process.” I was deeply involved in every
15 meeting, presented materials at each of the larger stakeholder meetings, and I led
16 the additional, more focused discussions with the smaller group of interested
17 stakeholders. I personally worked on the specific terms and conditions of the Solar
18 Choice Tariffs with stakeholders.
19

IV. SOLAR CHOICE TARIFFS

Q. PLEASE EXPLAIN THE TARIFFS AVAILABLE TO CURRENT NEM CUSTOMERS.

A. Current residential and non-residential NEM customers under the Companies' current NEM programs (the "Existing NEM Programs") receive service under their applicable rate schedules and an NEM rider. The rate schedules detail the charges and terms of service, and the NEM rider details the terms of the NEM transaction including netting periods and any NEM-specific terms and charges.

Q. PLEASE OUTLINE THE SOLAR CHOICE TARIFFS THE COMPANIES ARE PROPOSING IN THIS DOCKET.

A. Each of the Companies is seeking approval for two residential riders, one residential rate schedule, and one non-residential rider. While each of these are described in further detail later in my testimony, below is a brief description of the components of these offerings.

Residential Riders and Schedules:

1) The Companies' interim solar choice riders (the "Interim Riders") will be available for residential customers who apply for interconnection from June 1, 2021 through December 31, 2021. Residential customers will receive service under their existing rate tariff and an Interim Rider. The Interim Riders will be very similar to the currently approved NEM rider but will include monthly netting with net exports credited at avoided cost, non-bypassables charges, enrollment caps, and future service provisions.

1 2) The Companies' permanent solar choice riders (the "Permanent Riders") will be
2 available for residential customers who apply for interconnection on or after
3 January 1, 2022. Residential customers will receive service under the residential
4 solar time of use ("TOU") rate schedule ("Residential Solar Rate Schedules" and
5 the Permanent Riders (together with the Residential Solar Rate Schedules, the
6 "Permanent Tariffs"). The Permanent Riders will be very similar to the currently
7 approved NEM rider but will include monthly netting within TOU periods with net
8 exports credited at avoided cost and a monthly minimum bill ("MMB").

9 3) The Companies' Residential Solar Rate Schedules will be available for
10 residential customers who apply for interconnection on or after January 1, 2022.
11 The Residential Solar Rate Schedules are the sole NEM tariffs offered to residential
12 customer-generators and include TOU rates with critical peak pricing ("CPP"), a
13 monthly grid access fee ("GAF") for systems larger than 15 kilowatts ("kW"), and
14 non-bypassable charges.

15 Non-Residential Riders:

16 The Companies' non-residential solar choice riders (the "Non-Residential Riders")
17 will be available for non-residential customer-generators who apply for
18 interconnection on or after June 1, 2021. Non-residential customer-generators will
19 receive service under their existing rate schedule and a Non-Residential Rider,
20 which will include monthly netting with net exports credited at avoided cost.

21

1 **Q. PLEASE DESCRIBE THE PURPOSE OF THE INTERIM RIDERS.**

2 A. As further explained in the Companies' Witness Brown's testimony, as a part of the
3 testing and implementation of the Companies' new customer billing system,
4 Customer Connect, the Companies currently have a moratorium on integrating new
5 tariffs until after testing is complete. Once testing is complete, the Companies can
6 integrate the Permanent Tariffs into their billing systems in January 2022. The
7 Interim Riders will bridge the gap between when Act 62 requires Solar Choice
8 metering tariffs to be implemented (June 1, 2021) and when the Companies' billing
9 system can integrate the Permanent Tariffs (January 1, 2022).

10 **Q. PLEASE EXPLAIN THE INTERIM RIDERS.**

11 If approved by the Commission, customer-generators who apply for
12 interconnection from June 1, 2021, through December 31, 2021, will remain on
13 their existing rate schedule (e.g. RS, RE, RT, etc.) and be served under an Interim
14 Rider until May 31, 2029. Beginning June 1, 2029, customers on an Interim Rider
15 may stay on their existing approved residential rate schedule, but any volumetric
16 price increase thereafter will be assessed through a monthly non-bypassable charge
17 based on the Customer's nameplate capacity. These NEM customers will also be
18 assessed a minimum bill set at \$10 more than the Basic Facilities Charge ("BFC")
19 at that time. Alternatively, customers on an Interim Rider may elect to switch to a
20 Permanent Tariff in 2029.

21

1 **Q. THE PERMANENT TARIFFS WILL BE AVAILABLE TO ELIGIBLE**
2 **CUSTOMERS AFTER DECEMBER 31, 2021, CORRECT?**

3 A. That is correct. The Permanent Tariffs will be available to residential customers
4 applying for interconnection on or after January 1, 2022.

5 **Q. PLEASE DESCRIBE THE PERMANENT TARIFFS.**

6 A. After extensive stakeholder collaboration, the Companies developed the Permanent
7 Tariffs in accordance with Act 62 to ensure that the programs embody the next
8 generation of NEM. As of January 1, 2022, the Residential Solar Rate Schedules
9 are the sole rate schedules for residential customers. At that time customer-
10 generators will also receive service under the Permanent Riders, which allow
11 residential customer-generators to use their energy behind the meter without
12 penalty to offset, on a 1:1 basis, energy consumed in each monthly billing period,
13 and credits the customer-generators for any net exports at the Companies' most
14 recently Commission approved avoided cost rate. As described in detail further in
15 my testimony, the Permanent Tariffs utilize several innovative ratemaking
16 components including time-variant rates, a GAF for larger generation systems, a
17 minimum bill, and non-bypassable charges.

18 **Q. PLEASE DESCRIBE THE TIME-VARIANT RATES IN THE**
19 **RESIDENTIAL SOLAR RATE SCHEDULES.**

20 A. The Residential Solar Rate Schedules include two types of time-variant rates—
21 TOU rates and CPP rates. These “time-variant pricing structures” send more
22 accurate pricing signals and “aligns the customer’s ability to achieve bill savings

1 with long-term reductions in the overall cost the electrical utility will incur in
2 providing electric service” in accordance with S.C. Code Ann. § 58-27-845(D).

3 **Q. PLEASE EXPLAIN WHAT BENEFITS A TOU RATE PROVIDES.**

4 A. In accordance with Act 62’s guiding principle that time-variant pricing structures
5 can better align rates with bill savings with corresponding reductions in the
6 Companies’ cost to serve, the Residential Solar Rate Schedules incorporate TOU
7 rates. TOU-based rates more closely align to system costs and send better price
8 signals to customers than traditional two-part rates. When coupled with fixed
9 charges like a minimum bill or a demand charge, they can recover fixed costs while
10 still sending more accurate price signals for both exports and self-consumption
11 without being reliant on complicated load metering and export ratio calculations.

12 Additionally, TOU rates provide customers with the opportunity to have
13 more control over their electricity usage and, subsequently, their electricity bill.
14 Knowing what rates will be charged at set times enables customers to choose when
15 they power on their appliances and make decisions to avoid using their appliances
16 during peak hours when prices are high. This can both reduce customers’ bills and
17 increase their energy efficiency. In addition to benefits to customers, TOU rates
18 can also offer benefits to the utility system. As customers respond to the pricing
19 signals sent by the TOU rates, demand can shift from peak times to off-peak
20 periods. This naturally reduces the strain on the energy infrastructure during peak
21 times.

1 **Q. PLEASE DESCRIBE THE PROPOSED TOU RATES IN THE**
2 **RESIDENTIAL SOLAR RATE.**

3 A. The Residential Solar Rate Schedules' TOU rates better correspond to the cost to
4 serve residential customers, with peak hours also reflective of the forecasted system
5 peaks that the Companies' generation and transmission assets must meet. This
6 time-variant rate schedule is expressly contemplated by Act 62 as a way to align
7 customers' rates with the corresponding cost to serve, and it provides "customers
8 with the information and ability to manage their electric bills."⁶ The Companies
9 determined the TOU periods by evaluating the forecasted 2025 aggregate system
10 load for DEP and DEC to design rates that would last for several years. This
11 mitigates the risk that such rates would become out of date in a short period of time.
12 If approved by the Commission, the annual on-peak period will be from 6:00 pm –
13 9:00 pm on weekdays and non-holidays, with an additional winter on-peak period
14 during the months of December through February from 6:00 am – 9:00 am on
15 weekdays and non-holidays. The super off-peak period will be during the months
16 of March through November from 12:00 am – 6:00 am each day.

17 **Q. PLEASE ELABORATE ON THE CPP COMPONENT IN THE**
18 **RESIDENTIAL SOLAR RATE SCHEDULES.**

19 A. Another component of time-variant pricing within the Residential Solar Rate
20 Schedules is the CPP component. CPP events, as proposed by the Companies under
21 the Residential Solar Rate Schedules, may be called no more than 20 days per year

⁶ S.C. Code Ann. § 58-27-845(A)(3).

1 and there is no minimum number of CPP events. The designation of a CPP event
2 will be set daily and will be posted daily on the Companies' website as the official
3 customer notification. Additionally, customers will be able to elect to receive
4 notification of the CPP designation via email or text message. CPP events are most
5 likely to occur when hot weather prompts peak air-conditioning use, extreme cold
6 weather drives peak electric heating, or a large system failure cuts access to
7 electricity resources, causing strain to electricity supplies or the electricity grid.
8 The Companies have the flexibility to activate CPP events if they determine there
9 is a need for temporary reductions in electricity demands.

10 Although the price of electricity during a CPP event is significantly higher
11 than on-peak pricing, these rates reflect the increased costs the Companies incur to
12 meet the energy needs of all customers during such times. Furthermore, because
13 notice is provided to customers in advance of the CPP event, customers have the
14 option to reduce their energy use during these events and reduce their costs.

15 **Q. PLEASE DESCRIBE THE MONTHLY GAF IN THE RESIDENTIAL**
16 **SOLAR RATE SCHEDULES.**

17 A. The GAF is intended to recover distribution costs of customers with system sizes
18 greater than 15 kW, which are larger-than-average for customer-generators. To
19 design the GAF, the average maximum demand for customers with greater than 15
20 kW systems was determined and applied the distribution unit cost to estimate the
21 total distribution cost. The GAF was then set to the level that would recover this

1 cost minus the portion already recovered in through the minimum bill. The GAF
2 would be applied to the nameplate capacity in excess of 15 kW.

3 The proposed GAF in DEC-SC or DEP-SC is:⁷

4 o DEC GAF: \$5.86/kW/month

5 o DEP GAF: \$3.95/kW/month

6 **Q. PLEASE DESCRIBE THE MMB IN THE PERMANENT TARIFFS.**

7 A. The Permanent Tariffs include a MMB provision as part of its effort to fulfill Act
8 62's mandate to "eliminate any cost shift or subsidization associated with net
9 metering to the greatest extent practicable."⁸ The Companies propose a MMB of
10 \$30.00 for Permanent Tariff participants.

11 The MMB is satisfied by the BFC, the portion of such customer's monthly
12 volumetric energy charges specific to customer, and distribution costs—including
13 applicable riders. The portion of volumetric energy charges specific to customer
14 and distribution costs was determined by using a cost duration method with other
15 costs removed (i.e. leaving only customer and distribution costs). Bill credits for
16 net exports are not included in the calculation of the MMB but will reduce a
17 customer's total bill after the MMB charge has been applied. The MMB will ensure
18 that the minimum costs to serve a customer will be paid by that customer, regardless
19 of their usage.

⁷ The GAF may be updated in subsequent base rate cases.

⁸ S.C. Code Ann. § 58-40-20(A)(3).

1 **Q. ARE THERE ANY NON-BYPASSABLE CHARGES IN THE**
2 **RESIDENTIAL SOLAR RATE SCHEDULES?**

3 A. Yes. Charges related to demand side management, energy efficiency, storm cost
4 recovery, and cyber security are non-bypassable and will be assessed in a monthly
5 non-volumetric charge based on the customer-generator's system capacity with a
6 modeled annual capacity factor that represents typical system output.

7 **Q. PLEASE DESCRIBE HOW NET EXPORTS WILL BE CREDITED UNDER**
8 **THE PERMANENT RIDERS.**

9 A. Customer-generators can "use customer-generated energy behind the meter without
10 penalty,"⁹ in accordance with Act 62, to offset on a 1:1 basis energy consumed
11 within a given TOU period on a monthly basis. Any energy exported during CPP
12 hours will be netted against on-peak imports, not critical peak imports. If there are
13 net exports at the end of the monthly billing period (i.e. exported kWh is greater
14 than imported kWh for a given TOU period), Permanent Tariff customers will be
15 credited for any net exported energy at the Companies' most recently Commission
16 approved avoided cost rate.

17

⁹ S.C. Code Ann. § 58-40-20(G)(2).

III. SOLAR CHOICE PROGRAM UNDER ACT 62

Q. DO THE RESIDENTIAL SOLAR RATE SCHEDULES COMPLY WITH AND AFFIRMATIVELY ADDRESS THE POLICY REQUIREMENTS OF ACT 62 THAT YOU DESCRIBED ABOVE?

A. Yes, they do. The Residential Solar Rate Schedules utilize TOU rates and dynamic CPP pricing to send price signals to NEM customers that more accurately reflect the true cost to serve them. This is important because the Companies must build out and plan their systems assuming NEM customers will be consuming power from the Companies during peak time periods—including having personnel, equipment, and facilities in place to serve all customer demands 24 hours a day, 365 days a year. Without an appropriate rate structure in place, the NEM customer would experience a lower bill that would not accurately reflect the Companies' cost to serve such customer. This means that when rates do not accurately align with the cost to serve NEM customers, there is an unwarranted cost-shift borne by non-NEM customers because the Companies must recover those costs arising from NEM customers. Although such a cost-shift was permissible in the programs established under Act 236, Act 62 directs that the Solar Choice Program should eliminate the cost-shift and subsidization under the Solar Choice Program “to the greatest extent practicable.”¹⁰ To achieve this goal, the Companies implemented best-practices to create an innovative rate structure. As described below, the rate structure greatly eliminated an unwarranted cost shift in accordance with Act 62.

¹⁰ S.C. Code Ann. § 58-40-20(A)(3).

1 **Q. PLEASE EXPLAIN HOW THE SOLAR CHOICE TARIFFS ALLOW**
 2 **CUSTOMER-GENERATORS TO USE “CUSTOMER-GENERATED**
 3 **ENERGY BEHIND THE METER WITHOUT PENALTY.”¹¹**

4 A. The Solar Choice Tariffs still allow customers to net the energy sent to the utility
 5 against the energy supplied by the utility over the monthly billing period. By
 6 allowing customers to net their generation against their consumption, customer-
 7 generators are using their customer-generated energy behind the meter without
 8 penalty.

9 **Q. PLEASE EXPLAIN HOW THE SOLAR CHOICE TARIFFS**
 10 **COMPENSATE CUSTOMER-GENERATORS “FOR THE BENEFITS**
 11 **PROVIDED BY THEIR GENERATION TO THE POWER SYSTEM.”¹²**

12 A. Solar Choice customers are compensated through two mechanisms. First, their
 13 energy charges are directly reduced by solar production that is consumed on the
 14 premises or exported and netted during each pricing period. Second, they receive
 15 an avoided cost bill credit for any exports kWhs after the netting is complete.

16 **Q. DO THE PERMANENT TARIFFS ELIMINATE COST-SHIFT AND**
 17 **SUBSIDIZATION “TO THE GREATEST EXTENT PRACTICABLE?”¹³**

18 A. Yes, the Permanent Tariffs greatly eliminate the unwarranted cost-shift that occurs
 19 under the Existing NEM Programs. As described in greater detail by the
 20 Companies’ Witness Harris in this docket, the Companies performed embedded

¹¹ S.C. Code Ann. § 58-40-20(G)(2).

¹² S.C. Code Ann. § 58-40-20(F)(3).

¹³ S.C. Code Ann. § 58-40-20(A)(3).

1 ("Embedded Cost to Serve Studies") and marginal cost analyses ("Marginal Cost
2 Studies") to determine to what extent the innovative rate structures within the
3 Permanent Tariffs achieved this specific goal of Act 62. The Companies evaluated
4 the Permanent Tariffs via the same criteria utilized by the Companies to examine
5 the Existing NEM Programs in the Generic Docket. Those analyses reveal that the
6 new, sophisticated rate structures in the Permanent Tariffs reduced the cross-
7 subsidization by 88% under the Marginal Cost Studies, and 93%-113% in the
8 Embedded Cost to Serve Studies in DEC's South Carolina service territory. In
9 DEP's South Carolina service territory, the Permanent Tariffs reduced the cross-
10 subsidization by 53% under the Marginal Cost Studies and 109%-145% under the
11 Embedded Cost to Serve Studies.

12 Simply put, the stakeholder process, subsequent negotiations, examination
13 of the Existing NEM Programs, and the utilization of best-practices resulted in the
14 Companies proposing an intricate and innovative rate structure that greatly
15 eliminates unwarranted cost-shift in accordance with Act 62.

16 **Q. IF ONE ELEMENT OF THE SOLAR CHOICE TARIFFS—SUCH AS**
17 **NETTING INTERVALS—WERE MODIFIED, WOULD THE**
18 **REMAINDER OF THE SOLAR CHOICE TARIFFS REQUIRE**
19 **MODIFICATION AS WELL?**

20 A. Yes. The components of the Solar Choice Tariffs work together in a symbiotic and
21 iterative manner so even a minor change to one component would necessitate
22 recalculation of every other component.

1 **Q. ARE THE COMPANIES ALSO PROPOSING AN OPTION UNDER THE**
2 **SOLAR CHOICE PROGRAM FOR NON-RESIDENTIAL CUSTOMERS?**

3 A. Yes. DEC and DEP are both proposing the Non-Residential Riders, which would
4 be available to non-residential customer-generators applying for interconnection
5 after June 1, 2021. Those customers will be served under their existing rate
6 schedule and a Non-Residential Rider, which will include monthly netting of net
7 exports and imports. Monthly net exports will be applied as a bill credit at the same
8 rate for residential customer-generators.

9 The Companies have plans to undergo an extensive rate review which will
10 include an analysis of potential non-residential solar choice offerings and will
11 ensure that the interests of non-residential customers are adequately represented
12 under the Non-Residential Riders. Due to the complex nature and variations of
13 non-residential rate tariffs, the Companies limited their modifications to non-
14 residential offerings in this proceeding until they complete their rate review.

15 **IV. UTILIZATION OF BEST-PRACTICES**

16 **Q. WHEN DEVELOPING THE SOLAR CHOICE TARIFFS, DID THE**
17 **COMPANIES LEVERAGE PRACTICES IN OTHER JURISDICTIONS TO**
18 **FULFILL THE GOALS OF ACT 62?**

19 A. Absolutely. The Permanent Tariffs utilize many of the NEM best-practices utilized
20 throughout the country. Time-variant rates—as well as other mechanisms
21 envisioned by Act 62—that are incorporated into the Solar Choice Tariffs have
22 been utilized in other jurisdictions via volumetric TOU rates, demand focused price

1 signals, minimum bills, grid access fees, and non-bypassable charges. Each of
 2 these mechanisms is aimed at more closely accounting for the cost to serve NEM
 3 customers, which aligns with Act 62’s directive of aligning “the customer’s ability
 4 to achieve bill savings with long-term reductions in the overall cost the electrical
 5 utility will incur in providing service, including, but not limited to, time-variant
 6 pricing structures.”¹⁴

7 For example, TOU rate-structures are utilized in a vast majority of states,¹⁵
 8 while the GAF and minimum bill are also utilized in states such as Arizona and
 9 California. Likewise, the benefit of these innovative rate structures was also
 10 discussed by other parties in the Generic Docket. For example, Witness Beach, who
 11 testified on behalf of multiple parties,¹⁶ advocated for TOU rates—calling them a
 12 “key solution”—as well as a minimum bill.¹⁷ Likewise, ORS Witness Horii set
 13 forth “hallmarks” of an “ideal” solar choice tariff, which included time-varying
 14 rates, a service charge, and a monthly demand charge.¹⁸ As you can see, the
 15 Companies not only utilized best-practices from across the country, but also
 16 leveraged analyses performed in the Generic Docket to implement a new,
 17 innovative rate structure to accomplish the goals within Act 62.

¹⁴ S.C. Code Ann. § 58-27-845(D).

¹⁵ See, e.g., American Public Power Association, “Rate Design Options for Distributed Energy Resources,” November, 2016,

https://www.publicpower.org/system/files/documents/ppf_rate_design_options_for_der.pdf (“[TOU rates] are an attractive option because they align utility costs and revenues more equitably.”)

¹⁶ Witness Beach testified in the Generic Docket on behalf of the South Carolina Coastal Conservation League, Southern Alliance for Clean Energy, Upstate Forever, Vote Solar, Solar Energy Industries Association, and the North Carolina Sustainable Energy Association.

¹⁷ Direct Testimony of R. Thomas Beach, p. 28, line 10, filed in Docket No. 2019-182-E on October 8, 2020.

¹⁸ Direct Testimony of Brian Horii, p. 40, lines 5-6, filed in Docket No. 2019-182-E on October 8, 2020.

1 **Q. WHY DO THE COMPANIES BELIEVE THAT THOSE “BEST-**
2 **PRACTICES” THAT HAVE BEEN UTILIZED IN OTHER**
3 **JURISDICTIONS WOULD BE APPROPRIATE IN THE COMPANIES’**
4 **SOUTH CAROLINA SERVICE TERRITORIES?**

5 A. As with any NEM tariff, the components therein can only be properly evaluated
6 when viewed in the context of the entire tariff. Here, it is clear that the components
7 of the Permanent Tariffs—including TOU rates, CPP pricing, MMB, GAF, and
8 BFC—are appropriate in South Carolina because, when utilized in conjunction,
9 these components improve upon certain cost of service implications under Existing
10 NEM Programs to achieve the overarching goal of Act 62 to eliminate cross-
11 subsidization to the “greatest extent practicable,”¹⁹ as described above and in
12 greater detail by Companies’ Witness Harris.

13 **Q. CAN YOU PLEASE BRIEFLY DESCRIBE INDUSTRY REACTION TO**
14 **THE OUTCOME OF THE STAKEHOLDER PROCESS?**

15 A. The industry reaction has been overwhelmingly positive. I have given numerous
16 interviews and know that the industry is paying a great deal of attention to the
17 constructive manner in which the Companies, solar installers, and clean energy
18 advocates have worked together. I have also spoken to industry participants on the
19 matter. I believe there is a lot of positive attention being placed on South Carolina
20 right now, just as the industry paid attention to this State’s groundbreaking work
21 under Act 236.

¹⁹ S.C. Code Ann. § 58-40-20(A)(3)

1 **VI. CONCLUSION**

2 **Q. DO THE COMPANIES BELIEVE THAT THE SOLAR CHOICE TARIFFS**
3 **WILL CONTINUE THE SUCCESSFUL DEPLOYMENT OF NEM UNDER**
4 **ACT 236 BY ENCOURAGING GROWTH OF ON-SITE CUSTOMER**
5 **GENERATION?**

6 A. Yes. The Solar Choice Tariffs were specifically designed to establish the next
7 generation of NEM in South Carolina. By engaging in the months'-long
8 stakeholder process—which culminated in the Stipulation filed in this docket—the
9 Companies are able to provide a rooftop solar program that not only provides
10 customers access to a robust NEM option, but also ensures that a broad range of
11 interests is represented to ensure to “avoid disruption to the growing market for
12 customer-scale distributed energy resources” in accordance with Act 62.²⁰ And,
13 approval of the Solar Choice Tariffs provides a strong basis and solid first step for
14 the Commission’s consideration of enhancements in upcoming dockets to ensure
15 the future of rooftop solar continues to grow for the benefit of all customers for
16 years to come.

17 **Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?**

18 A. Yes, it does.

²⁰ S.C. Code Ann. § 58-40-20(A)(2).



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Experience

Vice President – Rate Design and Strategic Solutions

Nov 2019 -

Duke Energy – Charlotte, NC

Director – North American Retail Regulatory Offering

July 2018 – Nov 2019

Navigant Consulting – New York, NY

Vice President – Head of Consulting

MAR 2015 – JULY 2018

Strategen Consulting – Berkeley, CA

Special Projects Advisor

APR 2013 – MAR 2015

Arizona's Residential Utility Consumer Office (RUCO)
– Phoenix, AZ

Founder

DEC 2010 – JAN 2014

Next Phase Energy – Tucson, AZ

Manager – Policy Specialist

SEP 2011 – DEC 2012

Suntech America – San Francisco, CA

Finance & Policy Lead

SEP 2010 – SEP 2011

TFS Solar – Tucson, AZ

Congressional Energy Fellow

JAN 2009 – MAY 2009

Washington DC

Policy Program Associate

AUG 2007 – SEP 2010

University of Arizona Research Institute for Solar Energy – Tucson, AZ

EDUCATION

Masters of Business Administration
Eller College of Management, 2011

BS, Public Policy and Management,
University of Arizona, 2009

EDUCATION/CERTIFICATIONS

Instructor – FRI's [Transformational rate design course](#)

Microsoft Office Excel Specialist

NARUC Utility Rate School Graduate

AWARDS

Fortnightly Under 40 and Top Innovator Honor Roll –
Public Utilities Fortnightly

2018 Innovator of the Year – Utility Dive

The Phil Symons Award – Energy Storage Association

40 under 40 – Arizona Daily Star

Young Alumni Award and Outstanding Professional
Staff Member – University of Arizona

Congressional Recognition Award – US House of
Representatives